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NOS 2.3 OPERATING SYSTEM

LEVEL 617

SOFTWARE RELEASE BULLETIN

Control Data Corporation recommends that the Software Release
Bulletin be read in its entirety prior to any NOS installation.

SMD130714

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1.0 OVERVIEW

The Software Release Bulletin (SRB) is to be used in conjunction with the Installation Handbook (IHB) and the CYBER Supermini Operations Handbook for installing NOS and products. Control Data recommends that the SRB be read in its entirety prior to software installation. Any conflicts between the IHB and the SRB are to be resolved in favor of the SRB.

1.1 Purpose of SRB

The SRB is the vehicle whereby any changes to the IHB, after it has gone to print, are documented. Although features are not fully documented in this SRB, major changes in the system are highlighted with emphasis placed on installation dependent and configuration management data.

This document contains information necessary to build and install the NOS 2.3 Level 617 system. The appendix sections contain documentation on the release of the RHF/LCN QMOD enhancement, changes to the System Programmer's Instant, and Release Configuration Deck examples.

1.2 Post SRB Problem Notification

If significant problems occur after publication of this SRB they will be documented in SOLVER Installation Bulletins. Please note that Installation Bulletins are the vehicle used by Central Software Support to notify sites of significant software problems identified during the life of a system, as well as problems with the installation process.

1.3 System Content

This section lists the new features and enhancements of the NOS 2.3 level 617 system. Features marked with asterisks (*) are described in detail in the Feature Notes document (SMD130712) included with the release materials.

The CC634B console is available as an option for CYBER 180 models 810 and 830 systems using NOS 2.3 or later operating systems. This product includes a CC634B display terminal (also known as the 721-21 display terminal) and an AV117A cable. This console is referred to throughout the SRB as the CC634B.

1.3.1 Operating System Content

- o CYBER Supermini - 810/830 (*)
 - 834 Disk Subsystem
 - 639 Magnetic Tape Subsystem
 - CC634B Console (721 Console)
 - Printer Support Utility (PSU)
 - Supermini Procedures

- o 800 Series Enhancements (*)
 - Fault Tolerant Mainframe Error Processing
 - UEM Checkpoint
- o NP/QTF, PTF (*)
- o 380-170 (NAD) Code Conversion (*)
- o UCOPY for Control Data CONNECT (*)
- o Alternate PP/Critical Error Log (CIP level 2) (*)
- o Screen Management Enhancements (*)
- o End User Enhancements (*)
 - REDO Command
 - FCOPY Command Enhancements
 - RECLAIM Command Enhancements
 - COBOL Version 5.3 Enhancement
 - Data Catalog Version 2.0 Enhancement
 - NOS Procedure & Flow Control Command Enhancements
 - Human Interface Improvements
 - ERRMSG Command
 - Get Reprieve Information
 - BLOCK Command
 - CLASS Command Enhancements
 - EFFECT Command
 - SHOW Command
 - FORTRAN 5, Changes to GETPARM
- o Operator/Analyst Enhancements (*)
 - Disk Error Transparency
 - FLAW Command Enhancements
 - Indirect Access Permanent File Processing Enhancements
 - IAF Abort Processing Enhancements
 - ACPD/CPD Enhancements
 - Operator Notification of Insufficient Resources
 - Installation Defined System Events
- o Administration Enhancements (*)
 - Alternate CATLIST Security
 - Security Violation Tracking
 - Terminal I/O at Logoff
 - Default Charge Processing
 - Permanent File Catalog - Charge and Project Number
 - Password Randomization
 - Restrict User to Default Charge
 - /CHARGE for SUBMIT
- o NP/QTF, PTF to AOS/VE QTF, PTF Verification
- o CYBER 170-875 Support of 2 Million Words of Central Memory
- o NOS-IBM RHF Support

1.3.2 Common Products

- o On-Line Maintenance Software

1.3.3 Network Products

- o Printer Support Utility (PSU) (*)
- o Dynamic Allocation of PIP Buffers
Network Products 2.2/2.3 Coexistence
- o NP/QTF, PTF (*)
- o 3270 TIP Standardization (*)
- o X.25 Enhancements (*)
- o Miscellaneous Usability Enhancements (*)

1.4 User Impact Statements

Changes in the following areas are described in the User Impact Statement document (SMD130713).

- o LIBEDIT RENAME directive.
- o Noise Size Parameter for PE and GE Tape Requests.
- o Detached Job Recovery.
- o Changes to Symbolic Name WEEKDAY.
- o Alternate CATLIST Security.

2.0 SYSTEM INSTALLATION NOTES

The NOS 2.3 level 617 release materials have changed from that of level 602 and earlier systems but are the same as that of level 605. The release materials consist of a deadstart tape and set of permanent file tapes for customers who make a full product order (one which includes NOS) and consists only of permanent file tapes for component orders (one which does not include NOS). REL tapes no longer exist. In addition, full orders for non 800 series machines include the 700 CIP tape. The Installation Handbook (IHB) has undergone extensive modifications and now describes two types of installations, standard and custom. In a standard installation, the system is installed at nearly tape speed using the CDC built binaries and the installation tool SYSGEN for creating the permanent files necessary for running the system. A custom installation is the process of building the system from source utilizing the program libraries on the permanent file dump tape(s). Since all products come pre-built for the correct mainframe type (specified on the OIP), most custom installations should not require rebuilding the entire system. The permanent files are processed by the RECLAIM utility which allows loading files selectively from the tape. For further details, consult the sections below.

CAUTION: Changes to PPR entry points at NOS 2.3 Level 617 require that all site PP programs be reassembled.

2.1 Deadstart Tape Format

The deadstart tape comes fully "configured" with binaries built for all products which you ordered ("all products" refers to products available from the NOS 2.3 level 617 Order Information Package). It also includes a set of CMRDECKS and EQPDECKS to aid in deadstarting the system. The IPRDECKS contain the ENABLE commands for the products which you ordered. All products are now in alphabetical order within the 63 libraries of the tape. Consult the Installation Handbook, Appendix C for the exact format and organization of the products on the deadstart tape. For a listing of the released configuration decks, consult Appendix C of the SRB.

NOTE: Released binaries of NAM and RBF are built in NON-DEBUG/TRACE mode. PSU is built in non-TRACE mode. To swap in DEBUG/TRACE versions of NAM and/or RBF or a TRACE version of PSU, consult the SYSGEN(SWAP) command in Appendix B of the IHB.

2.2 Permanent File Tape Format

The permanent file tape contains the source program libraries for all products on your deadstart tape as well as the permanent files necessary for running your system. These files include subsystem startup procedures, interactive and editor help files, online manuals, and the installation decks. Using these files in conjunction with the SYSGEN procedures allows for a nearly "push button" installation. For the exact format of all files on the permanent file tape, consult Appendix C of the IHB. Usage of the SYSGEN procedures is shown throughout the IHB, particularly in sections 2 through 4 and reference information on SYSGEN is contained in Appendix B.

The permanent file tape is used by the RECLAIM utility but can also be used by PFLOAD. The installation procedures by default will load files individually from the tape just as the old release procedures would request individual tapes. If you wish, you may PFLOAD all files to disk but the installation process does in no way require it. When accessing files on the permanent file tape, RECLAIM will skip directly to the tape reel containing the desired file without reading preceding tape reels. It is highly recommended that anyone doing a custom installation make a backup copy of the permanent file tapes, refer to the SYSGEN(COPYTAP) command in Appendix B of the IHB.

If you use PFLOAD to load the permanent file tape(s), all files will be loaded with the "BR" permanent file parameter set to "NO". ("BR" is the backup requirements parameter, "NO" means do not backup.) This means that these files will be skipped by PFDUMP should you later try to dump the files to tape. If you use RECLAIM to load all files (e.g. RECLAIM(Z)/LOAD,UN=NS2617,NF=999), the files will be loaded with "BR=Y" which means that files will be backed up to tape by PFLOAD and also by MSS if it is being used. (The RECLAIM example given assumes that the RECLAIM database was loaded to disk by SYSGEN(FULL). The RECLAIM statement shown must be executed from the user name where the database was loaded. All files will be loaded to the same user name.)

When using SYSGEN(COPYTAP), be sure to use the exact same length tapes as the original release materials. It is possible, even when using the same length tapes, for the position of a file to shift from one tape to another due to the fact that tapes may vary in the number of usable feet. If this occurs, RECLAIM will issue the message "DUMP FILE MALFUNCTION - FILE NAME MISMATCH" when it cannot find the file it is expecting to on the tape. If this happens, perform the following steps on the installation user name where the RECLAIM database is stored to rebuild the database and correct the problem:

```
ATTACH(RECLDB/M=W)
EVICT(RECLDB)
RETURN(RECLDB)
RECLAIM(Z,L=LIST)/LIST,UN=NS2617,TN=vsu,D=dd,xx
```

where "vsu" is the VSN of the first permanent file
dump tape.
"dd" is the tape density.
"xx" is MT for a 7-track tape, and NT for a
9-track tape.

2.3 63 Character Set Installation

2.3.1 File Conversions

When using SYSGEN on a 63 character set system, all text files which are installed should be converted to 63 character set once SYSGEN has installed them. This is done using the FCOPY command. The FSEPROC file for example, would be converted with the command:

```
FCOPY(P=FSEPROC,PC=DIS64,N=newfile,NC=DIS63,R)
```

The full screen editor help file, FSEHELP, would be converted by:

```
FCOPY(P=FSEHELP,PC=ASCII64,N=newfile,NC=ASCII63,R)
```

The following files are installed by SYSGEN and must be converted to 63 character set because they are not recreated from the build jobs.

On username LIBRARY, convert the ASCII 6/12 files FSEHELP, FSTEACH, TDUIN, TDUFILE and HELPLIB. Convert the display code files FSEPROC, and RMUGET.

On username INSTALL, convert display code files USERBPS, SMFSTAT and NDLDATA.

Note, since HELPLIB is a ULIB file, you must GTR all PROC's from the file, convert them with FCOPY, then re-LIBGEN the file.

2.3.2 Printer Support Utility

The Printer Support Utility (PSU) is released in binary format only. In order to allow 63 character set customers to use PSU, the following procedure has been provided to load a 63 character set version of PSU from the permanent file tapes. You may load a trace or a non-trace version of PSU.

```
X.SYSGEN(SWAP,dd,PSU,,,type)
```

where dd is the tape density of the deadstart tape that will be built and type is "T63" to load a trace version and "NT63" for a non-trace version.

This procedure will build a new deadstart tape containing your running system plus the 63 character set PSU binaries. To use this procedure you must use SYSGEN(FULL) to load the RECLAIM database and will need to mount the permanent file dump tapes. There is no provision for restoring the original 64 character set version of PSU so be sure to keep a copy of your original deadstart tape.

2.3.3 63 Character Set Problems

- o RDF's input translation table (for the numeral zero) is not correctly modified for 63 character set systems. The following code resolves this problem. If you will be installing on a system without the network available, it is recommended that you deadstart the 64 character set Tailored System to create this modset (i.e., the modset does contain a zero).

```
*IDENT 1TMFIX
*DECK 1TM
*D,709
.APCT EQU O#25 (PCT) Percent
*/ END OF MODSET.
```

This problem can be tracked under PSR ident NS2D360 on SOLVER.

- o In appendix E of the IHB where 63 character set installation in a production environment is discussed, note that once the procedure "SETUP" is run, the procedure "UCOMMOD" should be run to re-create the "COMMOD" file in 63 character set format. Use this "COMMOD" file to set your DECKOPL installation defaults, then rerun "SETUP".

2.4 Product Information - OIP Expanded

This section expands on information provided in the Order Information Package (OIP). Note that the options/features described below affect the binaries only, the source program libraries for the products discussed have not been altered. All defaults are affected by default parameters in DECKOPL.

2.4.1 COBOL5/TAF/CDCS

COBOL5 is built to support the CDCS interface. The compiler will function correctly if you do not order the CDCS product. COBOL5 is not built to support the TAF interface. If this interface is needed, COBOL5 must be rebuilt from source.

2.4.2 CYBER LOADER

The IP.MECS symbol (specified in the build procedure TEXT) is set to 1 which means that the CYBER Loader can use extended memory if it is available. This should not have any adverse effects for customers who do not have extended memory.

The LOADER MAP option has been turned off (IP.MAP = 0).

The LOADER will by default display the field length used in the dayfile (IP.FLMSG = 1).

2.4.3 Product Interfaces for SORT5 and FTN5

All products which have interfaces with SORT4 or SORT5, are built by default with the SORT5 interface. This includes the products AAM2, COBOL5, IMF1, and QU3. The product FDBF's default interface is now FTN5 instead of FTN.

2.4.4 Communications Control Program (CCP)

When ordering CCP, you were able to select from one of six possible options (A through F). No matter which option you selected, you received the CCP source program library file containing build output listings, a ready to use CCP load file, a sample Network Definition Language (NDL) file, and variant build output files for all CCP variants in your load file.

The following table describes the released CCP variants.

<u>Variant Name</u>	<u>NPU Size</u>	<u>HIP</u>	<u>LIP</u>	<u>Buffer Space</u>	<u>TIPs</u>
V1F	96K	YES	NO	42K	ASYNCR, HASP, BISYNCR
V2F	96K	YES	NO	42K	ASYNCR, MODE4
V3F	96K	YES	NO	42K	ASYNCR, X.25 A-A, X.25 PAD
V4F	128K	YES	NO	37K	ASYNCR, HASP, MODE4, BISYNCR, X.25 A-A, X.25 PAD
V1L	96K	YES	YES	37K	ASYNCR, HASP, BISYNCR
V2L	96K	YES	YES	42K	ASYNCR, MODE4
V3L	96K	YES	YES	40K	ASYNCR, X.25 A-A, X.25 PAD
V4L	128K	YES	YES	42K	ASYNCR, HASP, MODE4, BISYNCR, X.25 A-A, X.25 PAD
SM1	65K	YES	NO	24K	ASYNCR
SM2	65K	YES	NO	19K	ASYNCR, HASP
SM3	65K	YES	NO	18K	ASYNCR, MODE4
SM4	65K	YES	NO	15K	ASYNCR, BISYNCR

The table below summarizes which variants are given with each of the six options (A through F) which could be selected when ordering CCP. The load file received with each of the options contains the variants listed for each option.

<u>Option</u>	<u>Variants Received</u>
A	V1F, V2F, V3F, V4F, SM1, SM2, SM3, SM4
B	V1L, V2L, V3L, V4L, V1F, V2F, V3F, V4F, SM1, SM2, SM3, SM4
C	SM1, SM2, SM3, SM4
D	SM1, SM2, SM3, SM4
E	SM1, SM2, SM3, SM4
F	SM1, SM2, SM3, SM4

The NDL received for options C through F specifies the variant name described on the OIP (option C specifies SM1, D specifies SM2, E specifies SM4, and F specifies SM3). The NDL received with options A and B will specify SM1. In addition, when SYSGEN(FULL) is executed, options C through F will have a compiled NDL placed on username NETOPS, options A and B will not. The source for the NDL is placed on username INSTALL as file NDLDATA.

2.5 Customized Installations

All products come prebuilt for the type of mainframe you specified on the OIP. Because of this you need only rebuild products that you need to customize, and those products which are dependent on the products you customize. The sections below contain additional information on customizing your system.

2.5.1 Loading DECKOPL

To begin a customized installation (one where you will build one or more products from source) you must load DECKOPL and other files from the permanent file tapes. The SYSGEN(SOURCE) procedure described in the Installation Handbook will do this for you. The file PFGDECK on the permanent file tapes contains DECKOPL in the format described in appendix C of the IHB.

2.5.2 CCP "Binary Install"

If the released CCP variants described in section 2.4.4 will not work, you may still be able to avoid rebuilding CCP completely by using the CCP "binary install" option on SYSGEN(SOURCE). The "binary install" option is invoked by specifying the parameter "CCP" when invoking SYSGEN(SOURCE). For CROSS, all permanent files necessary to execute CROSS are loaded, thus eliminating the need to build CROSS. For CCP, all permanent files created by steps CCPPH1 and CCPBLB are loaded. The USERBPS file used for the CCPPH1 and CCPBLB steps executed by Control Data is loaded as well. If the SYS definition is correct, you may modify the USERBPS and begin CCPVAR builds. (You must, of course, execute the SEED procedure with the REBUILD parameter first.) Note that if you need to include either the 3270 TIP or Online Diagnostics in your builds, you must execute CCPPH1 and CCPBLB yourself. LIP (Remote Concentrator Product) however, is included in your "binary install" files.

2.5.3 Installing CCP Online Diagnostics

If you wish to include CCP Online Diagnostics in your NPU variants, do the following:

- o Get the diagnostics tape (VSN=CCPD) from your CE. (CCP Diagnostics do not come on the permanent file tape.)
- o Make a component order installation of the tape, e.g., execute the following SYSGEN command on your installation username. SYSGEN(UPGRADE,0,0,CCPD,dd) where "dd" is the density of the tape. (You will see the message, NO FILES PROCESSED after the RECLAIM statement in the dayfile, this message is normal and should be ignored.) The UPGRADE command will update your RECLAIM database with information about the CCP Online Diagnostics source PL.

- o Execute CCPPH1 and supply the parameter "DIAG=YES". The build job will request the CCPD tape and load the P1 from it.
- o These steps should be performed after you have executed SYSGEN(FULL), SYSGEN(SOURCE) and completely set up your build environment.

2.6 Resequenced/New/Deleted Operating System Decks

The following decks were resequenced at NOS 2.3.

COMDDCM	COMDSYS	DIS	LIDOU	VDTSUBS
COMDDSP	COMSPFM	DSD	PFM	VIRTERM
COMDMAC	COMTCVT	FCOPY	SFORM	

The following decks are new at NOS 2.3.

COMCCUA	COMPAPI	CLMT	PIM	VCC
COMCDCM	COMPRFI	CPUPFM	REDO	VER
COMCDCP	COMSMDI	INITMDI	SCREX	1VP
COMDGJD	COMSTIR	IVPPFM	STASK	
COMFCID	COMSVED	LISTLID	SUPERM	

The following decks were deleted at NOS 2.3.

COMPACE
CMA
VDXTRNL

2.7 Miscellaneous Installation Notes

2.7.1 MAP III/IV

The MSSI Version 3 and AP1 on-line diagnostic installation procedure files are now part of DECKOPL. These procedures support the installation of MAP III/IV hardware.

2.7.2 Installation Job Messages

Several installation jobs exhibit non-fatal errors or "COPYL DID NOT FIND" messages. These are not conditions which affect the generated binaries. The following table lists these errors for the associated products. The frequency of occurrence of these conditions as documented below is relative to the products as released. Any local code may change these frequencies.

! PRODUCT !	! NON-FATAL ! ! UPDATE ! ! ERRORS !	! PARTITIONS ! ! NOT REPLACED ! ! IN COPYL !	! NON-FATAL ! ! LOADER ! ! ERROR !
!BAM	! 1 !	!	!
!BASIC3	!	! 2 !	! / !
!CCL	!	!	! 1 !
!PLI	!	! 1 !	!
!TEXT	! 2 !	!	!

2.7.3 CODEPL Modsets

Code on the corrective code file (CODEPL) is automatically installed. This code is not on the program libraries, but was used to generate the binaries for this release. The following modsets are on CODEPL:

AM2A298
SW1A646
LDRA513
FL5A660

2.7.3.1 AAM2

AAM can mark a good file as ruined, preventing later opens, when a user opens a file with write permission, but does no updating.

PSR code AM2A298 sets the "modification in progress" flag only when an update starts, allowing the reset after the update to be sufficient.

2.7.3.2 BAM

PSR SW10486 fixes an intermittent problem that resulted in an I/O SEQUENCE ERROR in CDCS. However, the code produced another problem that resulted in a MONITOR CALL ERROR in some cases. This resulted from BAM attempting to recall a duplicate FIT to avoid the first error but using a zero address by mistake.

PSR code SW1A646 corrects this problem.

2.7.3.3 LOADER

FDL does not correctly support loading of overlays or OVCAPS from large files in which the random addresses exceed 17 bits in size.

PSR code LDRA513 fixes this problem.

2.7.3.4 FL5

GETPARM returns an entry point name as a parameter if the program is called with an EXECUTE command in the command sequence.

PSR code FL5A660 makes a distinction between LGO and EXECUTE commands. If the command is an EXECUTE, the first GETPARM call will return the first keyword-value pair, instead of the entry point name.

2.7.4 VRHF Failure

The verification job VRHF run to verify that the RHF build job executed properly, fails at NOS 2.3. This problem will be fixed at the next release.

2.7.5 PSR Summary Report

A summary report of all the NOS PSR modsets in NOS 2.3 level 617 is available on the permanent file dump tape as file PFGPRPT. Refer to section 2.2 for more information about the permanent file dump tape format.

2.7.6 Generating SAM-D Cassette

The SAM-D cassette is no longer shipped with customer orders and must be generated with instructions from the Operations Handbook on pages D-32 and D-33.

2.7.7 MISCPL Modsets

MISCPL contains a modset, CPMPAGE, which is required only when installing NOS 2.3 on a NOS 2.0 or NOS 2.1 production system. The Print Density (Page Size) feature introduced product set incompatibility with earlier NOS systems. The Product Set code introducing this incompatibility is on the corrective code file and is automatically installed. This modset must not be used when building from the NOS 2.3 UDST.

MISCPL also contains three other modsets, QLOAD51, QLOAD52 and QLOAD6, which are queue utility compatibility modsets. If in your environment you will be moving queue files from NOS V1 to NOS 2.3 or NOS 2.1 to NOS 2.3 (or vice versa) you will need to install these modsets. QLOAD52 is required for queue compatibility between NOS 2.1 to NOS 2.3 and QLOAD51 and QLOAD6 are required for queue compatibility between NOS V1 and NOS 2.3.

These modsets were verified at NOS 2.2 but have not been verified at NOS 2.3. However, there should be no problem.

2.7.8 Errors and Omissions in the IHB

- o The section in the IHB which discusses SYSGEN(UPGRADE) is described as having three types of calls. One of these calls is for "building a deadstart tape using local files". What this particular SYSGEN(UPGRADE) call does is merge the binaries received with the component order with your base deadstart file (specified by the "old" parameter) and produce a new deadstart file on the file specified by the "new" parameter. File "new" may be a pre-assigned magnetic tape, direct access file, or a local file name. A tape will not be requested for writing the new deadstart file.
- o Page B-2, COMMOD is loaded by SYSGEN(SOURCE) instead of SYSGEN(FULL) as documented in the IHB.
- o The sections in the IHB which discuss component orders have an error. If you will be customizing a component order which contains a MODIFY product which resides in the composite OPL, you must update your existing composite OPL before building the component ordered product. To do this, use SYSGEN(RECLAIM) to load the file OPL617 from the component order permanent file tape once SYSGEN(UPGRADE) has been run. This file must be LIBEDITed against the composite OPL from your earlier full NOS L617 order. Once the merged composite OPL has been created, you may begin your customized installation of the component order. If you have updated the composite OPL with local code, be sure to use your OPL as a basis for the LIBEDIT.
- o Page 3-4, replace the procedure call in step 4, as follows:

```
BEGIN,SETUP,INSTALL,MOD=COMMOD,INSTALL.
```
- o Page B-19, insert description for the "new" parameter SYSGEN(DST), as follows:

```
new  The name of the file to receive the new deadstart
      file. This file can be a pre-assigned magnetic
      tape.
```

2.7.9 Incompatibilities

2.7.9.1 Password Randomization

This feature changes password processing so that, when a user changes his or her password, the user will specify only the first two to five characters of the new password, and the system will then generate two random characters to make up the remainder of the new password. The system then tells the user what the randomly-generated suffix is and requires the user to retype this entire new password. This process will reduce the probability that the new password will have an easily-guessed value.

A site will have the option, via a MODVAL access word option, of whether or not to force password randomization for a specific user. Password randomization will be forced for all existing users unless they are specifically validated for non-randomized passwords. All new users will be validated for non-randomized passwords by default. A site may choose to validate all their existing users for non-randomized passwords (thus continuing to run as before) by converting their VALIDUS file to source, and then recreating the file with the new CV=D conversion option.

Since interaction with the system is required to change a password under this scheme, both batch and interactive passwords must be changed from the terminal for a user for whom password randomization is required. The system will ask such a user which password is to be changed before asking for the old and new passwords.

2.7.9.2 Restrict to Default Charge

This feature allows a site to restrict a user to a single charge and project number. A user so restricted will only be able to charge to his or her default charge and project (as specified in the system validation file). Among other things, this means that a site can ensure that a specific user will execute a specific project prologue.

A site will have the option, with a MODVAL access word option, of whether or not to restrict a specific user to default charge.

All new users will be validated for non-restricted charge by default. All existing users will be restricted to default charge and project unless they are specifically validated for non-restricted charge. A site may choose to validate all their existing users for non-restricted charge (thus continuing to run as before) by converting their VALIDUS file to source, and then recreating the file with the new CV=C conversion option.

2.7.10 Verification Job Messages

If you run the VBAM and VSYMPL verification jobs, expect the following non-fatal error messages:

(VBAM) RM NOTE 1000 ON LFN TAPE 1
 RM NOTE 1000 ON LFN TAPE 2

(VSYMPL) 1 MACHDEP ERRORS(SUPPRESSED)

3.0 CONFIGURATION MANAGEMENT

The NOS 2.3 level 617 system was tested in an environment containing the following components:

Hardware Component	Release Level	Part Number
7054/844 (BCS-Half Track)	MA710-A13	52706607
7021/66X (FIRM66X)	MB434-A14	52653361
7155/885/844-4X (FMD-HT/FT)	MA721-A09	67185849
7154/844 (BCF-Full Track)	MA401-A07	22724600
7155-401/885-42/885-1X/844-4X (PHD-HT/FT)	MA722-A02	53479851
7221/639 (CW63X)	MB465-D02	23142079
7255-01/834 (ISD)	MA462-D01	21939499
380-170 (NAD)	MG401-D01	67185650
	MG101-A05	53367354
CYBER 18 Mode 4 Emulator	MD426-A05	88952276
Model 815 Microcode	M11AA10	19268826A
Model 825 Microcode	M12AA10	19268825A
Model 835 Microcode	M20AA13	19268948A
Model 810 Microcode	M14AA10	19268863A
Model 830 Microcode	M13AA10	19268872A
Model 845 Microcode	M310X03	67045756
Model 855 Microcode	M300X02	67070578
800 Series Environment Interface	Level 11	12361072AH
MDD	V05	53585390
SCD	V01	53585397

The following components are certified at the indicated levels:

Hardware Model	Hardware FCA Index	NOS Level	CML Level	CIP Level
CY170-815	4	V2.3 L617	161	L002
CY170-825	5	V2.3 L617	161	L002
CY170-835	6	V2.3 L617	161	L002A
CY170-845	3	V2.3 L617	161	L002A
CY170-855	6	V2.3 L617	161	L002A
CY170-865	1	V2.3 L617	161	L002
CY170-875	1	V2.3 L617	161	L002
CY180-810	1	V2.3 L617	161	L002
CY180-830	1	V2.3 L617	161	L002
CY180-835	6	V2.3 L617	161	L002A
CY180-845	3	V2.3 L617	161	L002A
CY180-855	6	V2.3 L617	161	L002A

Notes: The CYBER 170/180 models 835, 845, and 855 must use CIPL002A and not CIPL002.

Dual State must be run on NOS/VE 1.1.1 Level 617.

The following systems were functionally verified for proper operation with this release of the Remote Host Facility (RHF):

NOS 2.3 Level 617 to NOS 2.2 Level 605
NOS 2.3 Level 617 to NOS 2.3 Level 617
NOS 2.3 Level 617 to NOS/BE 1.5 Level 604
NOS 2.3 Level 617 to VSOS 2.1.5 Level 607
NOS 2.3 Level 617 to IBM RHF 2.0
NOS 2.3 Level 617 to VAX RHF 1.5

4.0 OPERATIONS CHANGES

4.1 Operator Changes

4.1.1 CC634B Console Support

NOS has been enhanced to support either the CC634B terminal or the CC545 as the local primary console. The CC634B terminal is supported through the 2-port multiplexer (MUX) on channel 15. The CC634B is supported on the C180-810 and 830 mainframes.

CIP level 2 must be used with this feature. Specifically, the dependencies are on CTI changes and the presence of SCD and CDC 721 controlware. The CC634B must have revision 4.0 firmware in order for it to be used as a console.

4.1.2 Display Format

Numerous changes have been made to the format of the displays for both types of consoles. Some programs, such as 026 and the game programs, will not work on the CC634B. Other displays have been reworked to make them appropriate for either analysts or operators. Some of the most significant changes are the following:

1. The channel status is now displayed in the W,C display.
2. The B-display has been split into the B,A (analyst) and B,O (operator) displays.
3. System resources are summarized in the W,R display.
4. The old W-display is now the W,Q display.
5. Family status and essential information about mass storage is in the new E,F display.
6. The DIS B-display now contains the breakpoint address and the exchange package. The DIS B-display can only be brought up on the left screen. Incrementing and decrementing the breakpoint address is accomplished with the + and - characters. Other information from the old B-display now appears in the DIS J-display. This display comes up by default on the right screen.

4.2 Analyst Changes

4.2.1 IAF Changes

If the queued output pot count for IAF exceeds its limit of 77B, the following message will be issued to IAF's dayfile: "XXXX LOST OUTPUT MESSAGE". XXXX is the JSN of the job that had an output message thrown away. Since the PP program LMI checks this count before sending output to IAF, this situation should not occur. This may occur, however, if a large number of messages are generated internally by IAF. This is an informative message to be used in the analysis of IAF problems.

4.2.2 Extended Memory Allocation Changes

To allow for larger allocations of user extended memory to an individual job greater than 1 million decimal words, the user extended memory allocation has been altered to use a block size definition symbol (UEBS). This symbol is defined in PPCOM and may be set to 1000B (current value) or 2000B. By setting the parameter to 2000B, up to 2 million decimal words can be assigned to an individual job. This is the maximum value currently supported by NOS. The user interface (Job command, macros, etc.) continues to be in number of 1000B word blocks of user extended memory, regardless of the value of UEBS.

4.2.3 DSDI Change

New DSDI dump directives provide various means to specify the memory to be dumped and various ways for it to be interpreted. These directives augment the CYBER 180 memory dump directives to be more useful when examining express deadstart dumps in which NOS/VE was running. Please refer to the NOS/VE Analysis Handbook for more information on the new directives.

4.2.4 TAF Changes

A new TAF installation parameter (CMMTFL) allows CRM to more efficiently manage its use of the CMM buffer when TAF/CRM is used as a data manager. This parameter defines the TARGET field length to be used for data and index blocks.

A new system task, STASK, has been developed that is called by ITASK. STASK sends some of the messages to the terminal that were previously sent by ITASK. This was done to ensure that ITASK is not put into recall because the connection is already at block limit. This task is included on the system task library file, TASKLIB, that is installed by the SYSGEN procedure call X.SYSGEN(FULL).

4.2.5 CC634B Console Support

Please use the CC634B Console article in the Feature Note document (SMD130712) for more information concerning possible analyst changes.

4.2.6 UEMIN Command

A new EQPDECK command, "UEMIN", has been added to automatically initialize UEM. This command is allowed in the text deck and allows for toggling full initialize status on a level zero deadstart.

4.3 User Changes

There are a large number of new and enhanced commands. They are listed in section 1.3.1 and are described in the Feature Notes which accompany the release materials.

5.0 SYSTEM DIFFERENCES

5.1 Operating System

5.1.1 Report Formats

The format of the output for CATLIST, PFCAT and the other PF utilities has been changed. This means that any programs that process the output from these utilities will have to be modified.

5.1.2 QAC/GET Change

Queue files may now be selected by file size from jobs issuing QAC/GET requests. The caller must set a new selection criteria flag and a valid pair of lower bound/upper bound file size indices. These new QAC parameter block fields are defined in the NOS Version 2 Reference Manual, Vol. 4. A file size index corresponds to a file size upper bound (in octal PRU's) and may assume values of 1 to 7, inclusive. The file size upper bounds are installation-definable; NOS-supplied defaults are defined in COMPRFI.

5.1.3 RDF

1TM has been changed to not allow RDF to use the same port as the system console when the system console is a CC634B. In addition, it is expected that a terminal running under RDF's control will have the following characteristics:

1. Even Parity.
2. One stop bit.
3. Seven data bits.
4. ASCII code compatible.

5.1.4 ØVU Change

ØVU now checks the service class validation for jobs routed from system origin jobs. Due to the restrictions that are now properly enforced, jobs that used to run may now abort with "INCORRECT SERVICE CLASS".

5.1.5 INSTALL Change

In a secured system, the command INSTALL is allowed only from jobs with security administrator privileges.

5.1.6 LIBDECK Changes

It will no longer be necessary to specify the CM residency of DSD overlays which must be CM resident. This will now be accomplished automatically.

Note that because of this change, SYSEDIT will make all overlays in the range 9CA - 9C9 CM resident.

A site may still use LIBDECK directives to make additional DSD overlays CM resident.

5.1.7 FILINFO Change

A new tape keyword to the FILINFO macro, LFM function 32, is now available. For more information, please refer to the NOS 2 Reference Set Volume 4.

5.1.8 Flow Control Command Enhancement

Calls to procedures that are loaded from the system may now contain continuation lines.

5.1.9 DIS Change

The length of the DIS keyboard buffer has been changed so that you cannot enter a command that is longer than 1AJ allows. This will prevent entering a long command under DIS and getting the message STATEMENT TOO LONG. The longest command you can enter is 49 characters.

5.1.10 ROUTE Changes

The FID and TID parameters on the ROUTE command have been changed to provide compatibility with parameter processing on the NOS/BE Operating System. The FID=fid parameter will now be recognized and processed as an alternative to the UJN=ujn parameter and the TID=tid parameter will be processed as an alternative to the UN=un parameter.

5.2 Product Set

5.2.1 APL Change

When APL2 was released as a standard product (with NOS level 439) a change was made in the format of APL structured files, and APL2 was changed to be able to tie both the old format files and the new format files. This capability for APL2 to access APL structured files for that old format is deleted.

APL has also been changed to add the user's index as the sixth element returned by \$QDAI.

5.2.2 COBOL5 Change

COBOL5 has been changed to allow processing to continue after an attempt has been made to open a file with the same name as an already opened file. The error is still fatal, but the job will continue if C\$IOENA is called.

5.2.3 FORTTRAN Data Base Facility (FDBF) Changes

FDBF 1.3 has been enhanced to allow the use of concatenated and major keys in a FORTRAN applications program. The FORTRAN subschema compiler (DDLDF) has been modified to recognize the concatenated record key. This modification required no syntax changes to DDLDF. The FORTRAN Data Manipulation Language (DML) statements READ and START have been modified to allow the specification of a concatenated key. The START statement has also been modified to allow the specification of a major key (the leading item(s) of the concatenated key).

5.2.4 SORT5 Change

In the original release of SORT5, a merge was done by sorting the data. A true merge is now performed. The input files for a merge with summing must be presorted and presumed. The FASTIO parameter is ignored during a merge.

5.2.5 RHF Configuration File (RCFGEN) Changes

The association of LIDs with PIDs has been centralized in the revised system LID table which is created by CLDT. NLID directives input to RCFGEN are no longer meaningful. To make use of the NAD code conversion feature, you must add the CMPATHS AND CMBUFFS parameters to the appropriate LNAD directives and you must have installed the LCN QMOD Enhancement (Appendix A). See the Installation Handbook and Analysis Handbook for more information.

5.2.6 PTF, QTF File Transfer Facilities

MFLINK, PTFS, QTF, and QTFS are now capable of transferring files through Network Host Products (NP) networks as well as through RHF/LCN. The file transfer applications can be installed to interface with either or both networks. Refer to the Installation Handbook for more information.

5.2.7 RHF Application Interface Changes

In order to increase compatibility with NAM and its AIP interface, a few changes have been made in the format of the CON/ACRQ/R, CON/ACRQ/A, and CON/REQ/R supervisory messages. CON/ACRQ/A reject reason codes have been completely redefined while those of ERR/LGL/R and NETXFR have been expanded to eliminate any network conflicts. The NETXFR parameter calling sequence has also been expanded. NETXFR has been changed to assume that the input data block application character type has been set to 2 (instead of 4) on the application connection number for which a file transfer is being requested. If necessary, any site-written RHF applications must change the character type via DC/CICT/R prior to calling NETXFR.

Refer to the RHF Access Method Manual Documentation Changes packet (SMD130720) for additional details of RHF application interface changes.

5.3 Network Products

5.3.1 Dynamic Allocation of PIP Buffers

The number of buffers specified in the NIP command (see IHB) now reflects the maximum number of buffers that may be assigned. Buffers will be allocated dynamically, based on traffic requirements. Installations may increase these values for periods of peak loads without suffering increased NAM field length during periods of reduced load.

5.3.2 Network Products 2.2/2.3 Coexistence

Releases 2.2 and 2.3 of Network Products will be able to coexist in a heterogeneous multi-host network, with terminal-to-application and application-to-application connections possible across a mixture of the two levels. Not all new features will be available unless all of the components of the network are at level 2.3.

Due to internal changes to the CCP/NHP interface and to the format of the NCF/LCF there are restrictions on the mixing of levels of NCF/LCF/NVF/CCP within a site, and these are:

1. The CCP level and the NCF level must be the same for CCP to be supervised by a given host. The 2.3 CS enforces this, but the 2.2 CS does not. The site has the option of ensuring this manually or installing PSR NA5A657 in their 2.2 systems, which will enforce this automatically. Any SUPLINK statements that could result in attempts to violate this constraint should be removed from the NCF.
2. The LCF level should match the NVF level. If the site requires a 2.3 LCF for a 2.2 NVF (e.g., multimainframe RMS) then PSR NA5A599 should be installed in their 2.2 system.

The following three step approach is recommended for sites running a network with more than one host and having a requirement to run different levels of NOS on the mainframes in the network.

1. Install NA5A599 in all of the hosts that will initially remain at 2.2.
2. Install 2.3 CCP load files on all hosts.
3. Rebuild the NCF/LCF for all hosts with the 2.3 NDLP.

This will result in the most flexibility for the site.

5.3.3 ANSI X3.64 (DEC VT100) Terminal Parameter Changes

In order to be more compatible with the characteristics of DEC VT100 and similar terminals, some changes have been made to the default parameters for the ANSI X3.64 terminal class (TC=7). The most troublesome of the former defaults was the choice of the ASCII ESC character (hexadecimal 1B) as the network control character (CT) parameter. When this character is echoed to the screen, it can cause undesirable effects on the terminal, depending on the characters that follow the ESC. For this reason, the ASCII percent sign (%) or hexadecimal 25) is now the default CT parameter, which is consistent with the other terminal classes that do not use ESC.

Most users of the DEC VT100 prefer to enable its automatic XOFF/XON feature so that they may use the smooth scroll capability as well as the NO SCROLL key. Automatic XOFF/XON is also necessary for operation at 9600 bps, and regardless of the feature setting, the terminal will honor receipt of an XOFF (ASCII DC3) and XON (ASCII DC1) when the host needs to regulate input. In view of this, the ANSI X3.64 terminal class now has the input flow control (IC) and output flow control (OC) parameters enabled by default.

Finally, because the VT100 does not echo keyboard input when online, the echoplex (EP) parameter is also enabled by default. The following table summarizes the new defaults for the ANSI X3.64 (DEC VT100) terminal class (TC=7).

NDLP DEVICE Statement	CCP Terminal Definition Command	IAF TRMDEF Command
CT=25	CT=%	CT=\$%\$
EP=YES	EP=Y	EP=Y
IC=YES	IC=Y	IC=Y
OC=YES	OC=Y	OC=Y

5.3.4 Host Availability Display Generation

In order to achieve better buffer utilization within the NPU, CCP does not generate the Host Availability Display (HAD) automatically upon connection termination. The HAD now is generated only in response to the following three TIP commands: <ct>HD=Y, <ct>HN=host node, and <ct>HS=host name.

5.3.5 RBF Inactivity Timeout on Dialup Lines

RBF now considers the user's validation as well as the build installation parameter ALOTIME in determining whether to time out dial-up lines after a certain period of inactivity.

RBF will time out an inactive dial-up line only if the installation parameter has a timeout value defined and the user does not have unlimited timeout validation.

<u>ALOTIME</u>	<u>CTIM</u>	<u>Result</u>
zero	1 (set)	} RBF will NOT terminate the connection due to inactivity.
non-zero	0 (not set)	
non-zero	1 (set)	} RBF will time out the terminal and terminate the connection on a dial-up line after ALOTIME seconds of inactivity.
non-zero	0 (not set)	

ALOTIME is an RBF build installation parameter with a default of 600 seconds. See the NOS 2 Installation Handbook for more information.

CTIM is a validation bit in the access word for the user name with which the terminal is logged in. See the NOS 2 Administration Handbook for more information.

5.4 Accounting Changes

5.4.1 PRU Limit Changes

Sectors released as a result of a PURGE of a direct access permanent file will now be credited to the job's PRU limit count in control point area word ACLW. Note that the job that releases the space may not be the one that allocated it. Also note that if a file is PURGED when there are still other users accessing the file, the last job to return the file will cause the disk space to be actually released, and get credit for those sectors.

5.4.2 Changes to Account Messages ABLQ/ARRQ

A service class field has been added to the ABLQ and ARRQ account file messages. The format of these messages is as follows:

ABLQ, C1, jsno, YYMMDD, HHMMSS, dc.
ABLQ, C2, nnnnnn.nnnKUNS, sc.

ARRQ, C1, jsno, YYMMDD, HHMMSS, dc.
ARRQ, C2, nnnnnn.nnnKUNS, sc.

where sc = two character service class mnemonic. No other fields have been changed.

5.4.3 New AERR Account Messages

IAJ will issue an account file message whenever a job is rerun by the operator. The format of the message is:

AERR, OP. (where OP indicates operator)

A new account file message has been added to allow tracking the number of reruns due to hardware errors.

AERR, HW.

It is written to the account file each time the system reruns a job because of a hardware error.

5.4.4 XEDIT Change

Upon completion of execution, XEDIT will now issue a message in the following format to the user and system dayfile:

1 3	14	24	34
- XEDIT	etime	cptime	msact

etime - elapsed time since initiation of XEDIT in the form HH.MM.SS.

cptime - cp time for XEDIT in seconds (to 3 decimal places) in the form NNNNNN.NNN (FORTRAN F10.3 format).

msact - mass storage activity for XEDIT in KUNS (to 3 decimal places) in the form NNNNNN.NNN.

5.4.5 New ABIC Account Message

A new account file message (ABIC) will be issued at job initiation for all jobs, to record the value of the user's default charge and project numbers. This message is issued regardless of whether the default charge and project numbers are valid, and regardless of whether the user's validations require charge processing.

5.4.6 New TIO Account File Messages

This feature changes IAF to calculate the total of both characters input and characters output, and issue a message stating this total to the terminal at logoff time. New account file messages will display the combined total characters input and output at end of account block and at end of job. IAF job recovery processing has been modified to recover the input and output character counts and restore them to the terminal table.

Compatibility changes:

1. The total terminal characters input and output will be displayed on the user's terminal on logout from IAF.
2. A new UDCT message will be issued to the account file and to the user dayfile at the end of an account block representing the combined total of terminal characters input and output. This message will be output regardless of whether the job is online at the end of the account block.
3. A new UECT message will be issued to the account file and user dayfile at end of job representing the total terminal characters input and output for the entire job.
4. A new UCCT message will be issued to the account file when the combined overflow counter for the input and output character counters itself overflows. This overflow will occur at a value of 16,777,216 characters.
5. The meaning of the current UDCI, UDCO, UECI, and UECO account file messages will be changed. These messages will now be issued at end of job instead of at the time a job is detached or terminated by IAF. The values for UECI and UECO will represent the input and output character counts for the entire job. The UDCI and UDCO account file messages will be output at the end of account block even if the job is not online.
6. The terminal character input and output counts will be recovered when a detached interactive job is recovered.

5.4.7 Deleted SFM Account Messages

The following account dayfile messages will no longer be issued by SFM each time one of the system dayfiles is accessed: SDCA, SDCI, SDCM, SDMR, SDMS, SDNF, SDPX, SDSF, SDTO and SDTS. The data reported in these messages are already available from both ACPD and PROBE.

6.0 KNOWN SYSTEM PROBLEMS

Problems that could possibly affect the reliability or stability of the system are documented below by product area. This is not an all encompassing problem list but a list of those problems to be aware of at installation time. Several problems and solutions refer the reader to SOLVER. If your site does not have access to SOLVER, contact your local Professional Services office. It is not recommended that all this code be installed automatically but that it be chosen selectively after experiencing problem symptoms similar to those documented in these sections.

6.1 Operating System

6.1.1 7255/834 System Deadlock

A configuration containing a 7255/834 disk subsystem with at least 3 control modules present may experience a system deadlock. This deadlock can occur only if at least one of the control modules is accessed by two channels on the same mainframe, and that control module is connected to at least two disk units. Symptoms of this problem include most PPs issuing DSWM monitor functions with little system activity occurring. Corrective code is available on SOLVER under PSR NS2D344. For additional information, please contact Central Software Support.

6.1.2 TAF Procedure

The TAF startup procedure may loop following a level zero deadstart with the message - RECOVERY FILE INITIALIZATION ERROR.

This problem can be tracked under PSR ident NS2C425 on SOLVER.

6.1.3 TAF/CRM

Running TAF with the TAF/CRM data manager with the EFL parameter set to a non-zero value may result in TAF hanging. This is usually caused by CRM needing more memory, and CMM being unable to provide it even though CMM has not used all of its buffer space as implied by the BFL and EFL parameters. In this case, CMM cannot get the additional memory because TAF is close to its maximum field length and cannot expand enough to satisfy the CMM request. This problem can be tracked under PSR ident NS2A318 on SOLVER.

6.1.4 RDF Procedure

If a site does not have IAF installed, RDF will not come up in response to the operator type-in: RDF. This problem can be tracked under PSR ident NS2D416 on SOLVER.

A temporary work around to this problem is to GTR the RDF procedure off the SYSTEM, rename it IAF, and save it under user name SYSTEMX.

6.1.5 CPD Utilization

Corrective code is available on SOLVER under PSR ident NS2D400 to correct the CPU Utilization statistics which are reported for a Dual State system. The time spent in NOS/VE System segments will also be reported.

6.1.6 Fault Tolerance

A user job which encounters a CPU error exit condition of 20B or 67B on a CYBER 170-8XX or CYBER 180 mainframe will be frozen at a control point. Corrective code is available on SOLVER under PSR ident NS2D389 to rerun the job.

6.1.7 PSU K-display

PSU is able to rollout even though the K-display is assigned to the job. This means that the operator could enter a PSU K-display command, however, PSU would never receive it. This problem can be tracked under PSR ident NS2D431 on SOLVER.

6.1.8 IAF Input Processing

There is a problem with IAF processing user input. This problem could appear as IAF hung in an infinite loop, IAF ABNORMAL on RIN or DPT errors, or an IAF abort due to CM OUT OF RANGE. Code is available on SOLVER under the PSR ident NS2D374.

6.1.9 Supermini Procedures

When a DUMPMOD is performed, the job might request the K-display which shows the illegal entry message. This is due to an incorrect parameter on the PFDUMP command.

This problem can be tracked under PSR ident NS2D435 on SOLVER. Until the problem is corrected, bring up the K-display and enter K.GO to get DUMPMOD to proceed.

6.2 Product Set

6.2.1 FORTTRAN 5 Library

GETPARM changes (see Feature Note Document) introduced two known deviations in continuation processing, and they are both addressed by PSR FL5A668. The symptoms are listed below so you can be aware of this behavior.

1. When interactively entering continuation lines, and at the '..' prompt, a valid continuation line must be entered. If a carriage return only is entered at this point, the job step is aborted with:

FORMAT ERROR ON CONTROL CARD

2. Ensure that there are some parameters on the command line before the two periods. For example,

LGO..

gets aborted with the message

FORMAT ERROR ON CONTROL CARD

6.2.2 PTF,QTF File Transfer Facilities

- o It is not possible to use MFLINK and QTF to transfer files on a NAM intra-host loopback connection. Therefore you should not include INCALL or OUTCALL statements in the NDL definitions for PTF, PTFS, QTF, or QTFS with SNODE and DNODE equal to zero. This restriction will be removed in a future release of Network Host Products.
- o When a series of MFLINK commands are executed to a CYBER 120, through NAM, MFLINK may abort with the message:

MFLINK - NETXFR ERROR 23 - INCORRECT BLK SIZE.

Code to solve this problem will be available under PSR ident RHFB117 on SOLVER.

- o File transfers from MFLINK to CYBER 200 VSOS 2.1.5 PTFS fail because the maximum blocksize attribute (parameter 12) is not recognized by PTFS. Code to solve this problem will be available under PSR ident RHFB123 on SOLVER. This code will also prevent the non-fatal message "INVALID PARAMETER 12 FOR 00." on transfers to prior releases of NOS 2 and NOS/BE RHF.

- o If an interactive user aborts MFLINK while it is transferring a file through NAM, the file may no longer be accessible to the user, because the file may remain assigned to the NAM subsystem control point until NAM is terminated. This problem can be tracked under PSR ident NA5B023 on SOLVER.
- o If a QTF or QTFS connection times out while an FC/ACK is outstanding for a "GO" or "RPOS" command and if the FC/ACK is received after the CON/END/R is issued, QTF/QTFS can loop with repeated "NETXFR ERROR" messages. Code to solve this problem is available under PSR ident RHFB118 on SOLVER.
- o If a null block is received as a supervisory message, PTFS will abort with the message "INVALID SUPERVISORY MESSAGE". Code to solve this problem is available under PSR ident RHFB121 on SOLVER.
- o When using NOS 2.3 MFLINK to transfer a very large file to CYBER 200 VSOS 2.1.5 PTFS, MFLINK may abort with the messages:

ACFETCH - ERROR IN VALUE CONVERSION.

MFLINK - NETXFR ERROR 04 - PROTOCOL ERROR.

This problem can be tracked under PSR ident RHFB125 on SOLVER.

6.3 Network Products

- NA5B032 The COLLECT job should not request tape(s) if there are no files to copy.

The COLLECT job requests two tapes irrespective of whether or not any files exist to be copied to tape.

The COLLECT job has been changed to:

1. Request tape(s) only if there are files to be copied.
2. Request only one tape if in the parameter record there exists "PARAM(ONETAPE=YES)".

All parameter records have been changed to include the parameter "ONETAPE=YES".

Code is available under SOLVER to correct this problem.

The following Network problems affect NP/PTF,QTF file transfer. Corrective code is available, unless otherwise stated, under their respective PSR idents on SOLVER.

- CC5A386 If a CCP variant does not include the X.25 TIP, any lines defined in the NDL with IMDISC=YES will not be configured by CCP.
- NA5A773 NVF disabled the request startable application QTFS on a busy system when it took the application job more than 3 minutes to start up. This then made it impossible to transfer queue files to that host until the application was enabled by the host console operator. This problem can occur with any request startable application.
- NA5A920 The maximum number of connections that is allowed on a host-to-host logical link is 255 (decimal). NIP is not enforcing this limit correctly. If more than 255 connections are attempted, the results are unpredictable.
- NA5A949 If an application-to-application connection is timed out by NAM while it is in the initialization stage, (i.e., NVF still has the connection) the wrong reason code is returned to the application that initiated the connection. The application should have received a CON/ACRQ/A supervisory message with reason code 9 instead of 0. If the application is a file transfer application, the file transfer is aborted instead of restarted. The MFLINK user that comes across the problem will also receive the wrong diagnostic message.
- NA5A999 If a file transfer is timed out by NAM, the wrong reason code is passed to the file transfer application by AIP. This will cause the file transfer to be aborted instead of restarted. The MFLINK user that comes across the problem will also receive the wrong diagnostic message.
- NA5B005 NIP may forget to update the data available word in AIP or to complete processing of a file transfer if the application is swapped in and out at the wrong time. This may cause an application to receive a null block when it was told that either data or a supervisory message was available, or to believe that there are no data or supervisory messages available when there are. This may also cause a file transfer to be suspended until it is timed out.

NA5B008 An application-to-application connection will hang during the initial establishment of the connection if the INTR block and the ICN/AN/N supervisory message are received in the wrong order at the host that initiated the connection. The connection will hang until it is timed out. The following message will also appear in NIP's dayfile:

NIP/NBSTTP ERR,HN=XX,TN=YY,CN=ZZ,14,1

NAM will fail with a state table error if it receives an application-to-application connection request with a connection number that is already in use. The following message will appear in NIP's dayfile:

NIP/NCSTTP ERR,HN=XX,TN=YY,CN=ZZ,16,9

NA5B009 NVF aborted with no error message. The analysis of the problem showed that NVF received two supervisory messages (CR/SWH/N and NET/OFF/R) from NAM and processed them in the wrong order. The CR/SWH/N was for switching a connection to the same application that the NET/OFF/R was for.

NA5B018 After NIP is informed that a host-to-host logical link has failed (either due to receiving a REG/ST/R supervisory message from PIP for a NPU coupler failure or a REG/LL/U supervisory message from CCP for a HOST/TRUNK/NPU failure), NIP will wait for PIP to acknowledge all PRU connections on that logical link before cleaning up all table structures associated with the logical link. During this time NIP will accept new application-to-application connections on that logical link. The result is that after PIP acknowledges all PRU connections, NIP does not clean up any table structures associated with the new application-to-application connections. The new connections will hang along with other unpredictable results.

NA5B022 NVF failed with a CPU error exit after the following K-display command was entered for a request startable application:

K.ST,AP=QTFS.

- NA5B034 NVF rejected connection requests for PTFS and QTFS. This made it impossible to initiate queue or permanent file transfers to that host. The problem will occur for a request-startable application if at least one copy of that application is already executing and NVF times out the startup of a second copy of that application. The timeout period is one minute.
- NA5A569 NAMI parameters are not substituted correctly under
NA5A921 certain circumstances. Among other symptoms, NAMI may initiate the network procedures using "VIN" rather than the correct network invocation number.

Code is not yet available to correct these problems. However, sites can circumvent the problems by ensuring that the NAMI call statement is terminated with only one terminator. For example, it should not be terminated with a right parenthesis followed by a period. In addition, the problems are more likely to occur if the NAMI call statement contains any erroneous parameters and the NETCTxx memory file does not exist prior to the NAMI call.

6.4 Miscellaneous

6.4.1 CONTEXT Release Note

If EXPLAIN or REVIEW is invoked with M>manual-name and the manual does not exist, they will diagnose this and incorrectly leave the user in EFFECT,OFF mode. The result seen by the user is that the first character of output responses disappears (it is used for carriage control) and the slash prompt is at the end of the last output line rather than on a line by itself. The user can correct the condition by entering the command EFFECT,ON. This problem can be tracked under PSR ident OM1A012 on SOLVER.

6.4.2 HPA \SECDED Detail Reports

HPA SECDED Detail Reports are reporting the following information incorrectly for Model 810, 815, 825, and 830 mainframes when running NOS:

Address	Pak Location
Bank	Syndrome Code
Pak	Trailing Bit

HPA level 167 is modified to report *** for the above information if it is known to be incorrect. Earlier levels of HPA will report incorrect data for the above information.

The Summary of MR SECDED Error Count by Address report which is part of the Unit Analysis report for Maintenance Registers is also incorrect and should not be used.

The correct information concerning SECDED memory errors can be found in the Memory Data Detailed Report and in the Summary of Memory Errors by Address/Type which is part of the Unit Analysis Report for Maintenance Registers.

This problem will be corrected with the next release of NOS.

6.4.3 EDD/SCR Register

At CIPL002, the Express Deadstart Dump utility does not dump the second SCR register on all CYBER 70/170/700 (including CYBER 865/875) mainframes. This problem will be fixed in CIPL003.

7.0 DOCUMENTATION

7.1 Reorganization of Site Manuals

The core site manuals previously consisted of three manuals: the Installation Handbook, the Operator/Analyst Handbook, and the System Maintenance Reference Manual. These three manuals were reorganized into four manuals to document four different tasks associated with a NOS system: installation, operations, analysis, and administration. Here is a brief description of the four manuals:

Installation Handbook	The new Installation Handbook describes two methods for installing NOS and its product set: the standard installation method and the customized installation method. The descriptions of nonessential assembly and installation parameters and extended discussions of product variants have been removed. Note that the descriptions of the deadstart decks (CMRDECK, EQPDECK, IPRDECK, APRDECK, and LIBDECK) are now in the Analysis Handbook.
Operations Handbook	The new Operations Handbook consists of Part I and selected appendixes of the old Operator/Analyst Handbook.
Analysis Handbook	The new Analysis Handbook consists of Part II of the old Operator/Analyst Handbook and most of the information of the old System Maintenance Reference Manual. This handbook also includes analyst material that was previously documented in the Installation Handbook.
Administration Handbook	The new Administration Handbook contains validation and accounting information that was previously documented in the System Maintenance Reference Manual.

In addition to the structural changes to the core site manuals, we also created two other site manuals. The other new manual is the CYBER Supermini Operations Handbook. It is a task-oriented manual designed for novice operators of CYBER Supermini computer systems.

7.2 Errors and Omissions

7.2.1 TAF Documentation Changes

Changes to the TAF Reference Manual and the TAF/CRM Data Manager Reference Manual are available in the TAF Manual Documentation Changes packet (SMD130719) which a site will receive only if TAF is ordered.

7.2.2 RHF Documentation Changes

Changes to the RHF Access Method Reference Manual are available in the RHF Access Method Reference Manual Documentation Changes packet (SMD130720). Included in the packet are diagnostic messages for MFLINK, PTFS, QTF, and QTFS which also apply to the NOS V2 Operations Handbook and the NOS V2 Reference Set Volume 3 manual.

7.2.3 System Programmer's Instant Changes

Changes to the System Programmer's Instant Reference Manual are documented in Appendix B of the SRB.

7.2.4 Reference Set Volume 3 Change

A change to the Reference Set Volume 3 System Commands Reference Manual under FCOPY COMMAND on page 9-23 is as follows: replace code set keyword ASCSFL with ASCFL.

7.3 MSAS Documentation

Although the Mass Storage Archival Subsystem feature is not officially supported at level 617, it is planned to be a part of a subsequent release. For the benefit of those customers who will be receiving this feature in the future, this documentation is included in the Analysis Handbook at Level 617.

7.4 834 Disk Subsystem

A potential problem exists for customers writing PP programs to deal with unrecovered disk errors on 834 disks.

When writing data to an 834 device, up to 32 sectors of data can get buffered in the control module while waiting for the drive to come into position. This means that the logical disk address maintained by the PP writing data can be updated before the corresponding sector has actually been written to disk. If an unrecoverable error should occur while writing that sector, and if other sectors have been buffered behind the problem sector, then the logical disk address maintained by the PP writing the data will not match the actual sector in error. Users who have written specialized disk error recovery routines should therefore use the disk address returned in detailed status to determine the sector in error instead of the logical address maintained by the PP.

8.0 FUTURE ENHANCEMENTS

8.1 SYSEDIT Changes

SYSEDIT and SLL have been changed to use 24 bit arithmetic when converting track and sector to random disk address. This allows the deadstart tape to increase in length, and allows multiple SYSEDITs after deadstart without system hangs due to improperly computed disk addresses.

However, user libraries and procedures must still be resident in the first 131K disk PRUs of the system file. Code to remove this limitation will be released with a later release of NOS Version 2.

It is recommended that modsets LDRA512 and LDRA513 be installed. These modsets will aid in migration to the future systems with the 131K disk PRU restriction. Both modsets have been built into the loader binaries at level 617, LDRA512 is in the released PL while LDRA513 is in CODEPL (see section 2.7.3).

APPENDIX A

Release of the RHF/LCN QMOD Enhancement

Description

The common LCN NAD code has been upgraded. This upgrade, known as the QMOD enhancement, affects all NADs by allowing them to more efficiently balance and process network activity. The major features include:

- o The queueing technique for path requests has been changed to a round robin scheme. This ensures equitable service on all paths.
- o The queue searches are performed with new and faster instructions. See required FCOs on the attached matrix.
- o The CYBER 170 NAD QMOD controlware supports NAD based code conversion. Host software support of this feature was released in NOS/BE 1.5 Level 604 and has been released in NOS 2.3. Enabling this feature requires a minimum of 96K bytes of NAD memory.
- o Network timeouts are automatically performed at the NAD to NAD and NAD to host levels. This allows for faster and more consistent handling of network timeouts.
- o Additional network status is provided. This allows for future host enhancements in the areas of reliability, maintainability and availability improvements.

The QMOD enhancement is identified for CYBER 170, 7000, IBM and DEC NADs by a new controlware identification number (MG4XX). It is available for CYBER 200 NADS with the VSOS 2.1.5 software release. When this new controlware/software is installed, all the NADs on the network must be upgraded to this level.

****WARNING****

The QMOD trunk protocol is not compatible with non-QMOD trunk protocol. The two protocols cannot be intermixed on the network. Thus, QMOD and non-QMOD should not be installed on the same trunk.

Installation Process

Prerequisites:

- o The NAD hardware must be upgraded to contain the new queue search instructions. See the attached matrix for the required hardware equipment levels.
- o The operating system and RHF software must be upgraded as specified in the attached matrix.

The hardware may be upgraded independently and software may be upgraded independently. (All the software releases specified in the matrix will support either QMOD or non-QMOD mode of operation.) However, before QMOD can be installed both the hardware and software must be upgraded as specified by the matrix. Please contact Central Software Support (800-328-9567 or 612-482-3074) if you desire to install QMOD without all the software components being at the indicated levels.

Installation Procedure

All QMOD NAD controlware/software applicable to a network must be installed simultaneously.

- o For CYBER 170, IBM, 7000 and DEC NADs:
 - Install QMOD NAD controlware identified in the attached matrix.
- o For CYBER 205 NADs:
 - Install QMOD NAD software per instructions in the VSOS 2.1.5 Software Release Bulletin.

Termination of Non-QMOD Support

- o Software releases after those specified in the matrix will require a QMOD network environment.
- o Future releases of non-QMOD controlware/software are not planned.

APPENDIX A
QMOD MATRIX

C	MF	CYBER	CYBER 170			7600	IBM	VAX
O	TYPE	205						
N								
F								
I								
G	OPER	VSOS	NOS 1	NOS 2	NOS/BE	SCOPE	MVS	VMS
U	SYSTEM					2.1		
R								
A								
T	NAD							
I	TYPE	380-200	380-170			QSE	380-370	380-110
O								
N								
P	NAD	FW103-	FW101-A09				FW107-	
R	EQUIP.	A12 (1)	(1)				A11 (1)	
E	NO. -							
R	CONFIG.	FW203-	FW201-B14			FW211-	FW207-	FW205-
E	IDENT.	B14 (2)	(2)			B01	B14 (2)	B12 (2)
Q	RHF						2.0	1.0
U	SW						7/84	6/84
I			1.4 601	2.2 605	1.5 604			(6)
S	OS	2.1.5	2/84	3/84	2/84			
I	SW	607	(3)	(4)		(5)		
T		4/84					N/A	
E	ERROR		CML 161 (HPA)					
S	LOG		5/84					
I								
N								
S	NAD	N/A	MG401-D01			MG411-	MG407-	MG405-
T	CW		6/84			A01	D01	D01
A						(5)	8/84	8/84
L								
L								
A		2.1.5						
T	NAD	607				N/A		
I	SW	4/84						
O								
N								

- NOTES:
- (1) Earlier model FW1XX NAD's require FCO CA043872.
 - (2) Earlier model FW2XX NAD's require FCO CA042805.
 - (3) Additional PSR's required. Contact Central Software Support for PSR list and availability dates.
 - (4) The initial release of NOS 2.3 has been verified with non-QMOD and QMOD controlware.
 - (5) Contact Central Software Support for current planned date.
 - (6) VAX 1.5 will be verified with non-QMOD and QMOD controlware.

CAUTION: THIS MATRIX DOES NOT INFER PLANNED SYSTEM TO SYSTEM VERIFICATION. REFER TO INDIVIDUAL SRB'S FOR INFORMATION CONCERNING SYSTEM TO SYSTEM VERIFICATION.

APPENDIX B

System Programmer's Instant Changes

- o Page 4-60, replace A, as follows:

inal

- o Page 4-61, replace B, as follows:

inal Initial access level

- o Page 4-61, replace C, as follows:

inal

- o Page 4-61, insert D, as follows:

inal Initial job access level

Subfunction 2 (VAES)

Request:

OR 0102 0002 eeee **** aaaa
 eeee EST ordinal for equipment.
 aaaa Requested access level.

Reply:

OR 0000 ssss ****
 ssss Status of request (0 if access level valid).

Subfunction 3 (VAJS)

Request:

OR 0102 0003 **** **p
 MB **** aaa: *ccc cccc cccc
 p Processing option:
 1 Access level only.
 2 Access categories only.
 3 Access level and access categories.
 aaaa Access level.
 cc...c Access category set.

Reply:

OR 0000 ssss ****
 ssss Status of request (0 if access level and/or categories valid).

Subfunction 4 (VJCS)

Request:

OR 0102 0004 otot uuuu
 MB **** aaaa *ccc cccc cccc
 otot Job's origin type.
 uuuu Job access level upper limit (4000g for default).

B → **** Job access level lower limit.
 aaaa Access level validation bits (from VALIDUS file).
 cc...c Access category validation bits (from VALIDUS file).
 Reply:
 OR 0000 ssss ****
 ssss Status of request (0 if job may be created).
D → rual Restricted upper access level limit.
 rlal Restricted lower access level limit.
 aaaa Restricted access level bits.
 cc...c Restricted access category bits.

Subfunction 5 (VEDS)

Request:

OR 0102 0005 **** **ee eeee
 ee...e Expiration date.

Reply:

OR 0000 ssss ****
 ssss Status of request (0 if expiration date not yet reached).

Subfunction 6 (VJLS)

Request:

OR 0102 0006 otot ulul ****
 otot Job's origin type.
 ulul Job access level upper limit.
 **** Job access level lower limit.

Reply:

0000 ssss ****
 ssss Status of request (0 if access level limits valid).

APPENDIX C

Released Configuration Decks

Configuration decks have been defined based on mainframe type and memory size. The decks - CMRDECKS, EQPDECKS, IPRDECKS, and LIBDECKS - are resident on the NOS 2.3 L617 deadstart tape. The directory, which is on CMRDECK 0, is provided below. A listing of 2 CRMDECKS and EQPDECKS and 1 IPRDECK and 1 LIBDECK follow the directory to be used as examples.

The decks serve two purposes:

1. They contain a small disk configuration to allow you to get NOS running initially with a minimal number of configuration deck changes.
2. They define software variable values, such as UEM size, number of control points, queue table space according to memory size. The values should allow you to run your system efficiently provided you are not running a specialized application and you are not overloading a particular resource. Consult your local Professional Services analyst or Central Software Support if you need help adjusting the values for special cases.

Special note for CYBER Supermini customers:

More information regarding configuration decks and other NOS deadstart details is contained in the CYBER Supermini Operations Handbook. Consult that manual for specific instructions.

CHRD88

NAME=NETWORK OPERATING SYSTEM. 8.

VERSION=NOS 2.3 L617.

* DIRECTORY *

*TABLES ARE PROVIDED HERE TO HELP YOU SELECT WHICH
*CONFIGURATION DECKS TO USE FOR YOUR SYSTEM.

*USE THE CONFIGURATIONS DECKS (CHN/EOPDECKS)

* .TO DEADSTART NOS DURING SYSTEM INSTALLATION ON
* MINIMUM CONFIGURATION.
* .AS EXAMPLES FOR CREATING YOUR OWN DECKS.

*DECKS 1-6 ARE FOR THE CYBER 180-810/830. SEE THE
*TABLE FOR DISK, TAPE AND PRINTER EQUIPMENT INFORMATION.
*EACH DECK HAS A 2551 NPU, CONFIGURED ON CHANNEL 7, NODE 1.

*THE DECKS FOR ALL OTHER MAINFRAMES HAVE ONE DISK CHANNEL
*(CH1) TO TWO DISK UNITS (844--UN 0 AND 1, 885--UN 40 AND
*41), 67X TAPE DRIVES (CH13), PRINTER (CH12, EQ5), AND A
*2551 NPU (CH7, MD1).

*TABLE SIZES (CHNDECK) ARE SET ACCORDING TO MEMORY SIZE.
*MAIN MEMORY AND ESM SIZES ARE GIVEN IN 66-BIT WORDS.

*IPRDECK 01 IS FOR 810/830-S WHICH USE THE CYBER SUPERMINI
*PRINTER, AND 639 TAPE DRIVES. IPRDECK 00 IS FOR ALL
*OTHER MACHINES.

* LIBDECK 00 IS FOR MACHINES WITHOUT UEM/ESM.
* LIBDECK 01 IS FOR MACHINES WITH ESM.
* LIBDECK 02 IS FOR MACHINES WITH UEM.

* DECK
* NUMBER

** 00 DIRECTORY

*****810/830 DECKS*****

	MEMORY SIZE	MAG TAPE	DISK	PRINTER
* 01	262K	639	834	*1*
		(CH6)	(CH0,UN0)	
* 02		639	834	*1*
		(CH6)	(CH0,UN0,1)	
* 03	512K	639	834	*1*
		(CH6)	(CH0,UN0,1)	
* 04		679	885	580
		(CH31)	(CH1,UN40,41)	(CH12,EQ5)
* 05	1000K	639	834	
	OR MORE	(CH6)	(CH0,UN0,1)	*1*
* 06		679	885	580
		(CH31)	(CH1,UN40,41)	(CH12,EQ5)

*NOTE *1*. THESE DECKS CONTAIN NO PRINTER ENTRY. CYBER
*SUPERMINI PRINTER (533/6) IS CONNECTED VIA THE 2551 NPU.

*****DECKS FOR ALL MAINFRAMES BUT 810/830*****

	MEMORY SIZE	ESM SIZE	DISK
* 07	262K		844
* 10			885-12
* 11	512K		844
* 12			885-12
* 13	1000K		844
* 14			885-12
* 15	2000K		885-12
* 16	262K	1000K	844
* 17			885-12
* 20			885-42
* 21		2000K	844
* 22			885-12
* 23			885-42
* 24	512K	1000K	844
* 25	OR MORE		885-12
* 26			885-42
* 27		2000K	844
* 30			885-12
* 31			885-42
** 32	UNCONFIGURED DECK		

CMRD05
 NAME=NETWORK OPERATING SYSTEM. 5.
 VERSION=NOS 2.3 L617.
 MID=AA.
 LIB=2.
 NCP=23.
 QPT=1200.
 EJT=1000.
 IPD=1.

EQPD05
 * EQPDECK FOR CYBER SUPERMINI
 EQ005=DE,ET=EM,SZ=2000.
 EQ010=DD,UN=00.
 EQ011=DD,UN=01.
 EQ040=CM,EQ=0,CH=0.
 EQ050=NP,EQ=7,PI=1,CH=7,ND=1,SA=OFF.
 EQ060=NT,EQ=0,UN=0,CH=6,TF=IST
 EQ070=RM,ST=OFF,CH=15,PT=1.
 SYSTEM=11.
 SCKP=10,11.
 DAYFILE=11.
 ACCOUNT=11.
 ERRLOG=11.
 MAINLOG=11.
 XM=AA,,100.
 MSAL,T=10-11.
 MSAL,S=5.
 UEMIN.
 FAMILY=10.
 PF=005,P,000,000,CYBER,5.
 PF=010,P,377,377,CYBER,10.
 PF=011,P,000,377,CYBER,11.

CMRD26
 NAME=NETWORK OPERATING SYSTEM. 26.
 VERSION=NOS 2.3 L617.
 MID=AA.
 LIB=1.
 NCP=34.
 PPB=10.
 QPT=2000.
 EJT=1000.

EQPD26
 EQ005=DE,ET=ES,SZ=4000.
 EQ006=DB,UN=40,CH=1,HT=400.
 EQ007=DB,UN=41,CH=1,HT=400.
 EQ020=LT,EQ=5,CH=12.
 EQ050=MT=6,EQ=0,UN=0,CH=13,TF=ATS.
 EQ060=NP,ST=OFF,EQ=7,PI=1,SA=OFF,CH=7,ND=1.
 EQ070=RM,ST=OFF,CH=15,PT=1.
 SYSTEM=6.
 FAMILY=7.
 ASR=5.
 XM=AA,3000,400,EM.
 MSAL,T=6,7.
 MSAL,S=5.
 MAINLOG=6,200.
 PF=5,P,,,CYBER,5.
 PF=6,P,,377,CYBER,6.
 PF=7,P,377,377,CYBER,7.

IPRD00
 SRST=320.
 LOCK.
 **ENABLE DIRECTIVES WILL BE INCLUDED IN YOUR IPRDECK BASED ON THE
 **PRODUCTS THAT YOU ORDERED.
 ENABLE,MS VALIDATION.
 ENABLE,PF VALIDATION.
 DSD,0,MAILX.QREC(PO=N)
 QUEUE,SY,IN,LP7770,UP7776,WF1.
 QUEUE,SY,EX,LP2000,UP7000,WF1,IP7000,IL4000.
 QUEUE,SY,OT,LP7000,UP7776,WF1.
 QUEUE,CT,IN,LP7770,UP7776,WF1.
 QUEUE,CT,EX,LP4000,UP7000,WF1,IP7000,IL4004.
 QUEUE,CT,OT,LP7000,UP7776,WF1.
 SERVICE,CT,CP400,CM200,PR30,NJ7777.
 SERVICE,SY,CP100,CM20,PR30,NJ7777.
 QUEUE,BC,IN,LP0010,UP4000,WF1.
 QUEUE,BC,EX,LP1000,UP4004,WF1,IP2000,IL2000.
 QUEUE,BC,OT,LP0001,UP7000,WF1.
 SERVICE,BC,CP400,CM200,PR30,NJ7777.
 QUEUE,RB,IN,LP0010,UP4000,WF1.
 QUEUE,RB,EX,LP1000,UP4004,WF1,IP2000,IL2000.
 QUEUE,RB,OT,LP0001,UP7000,WF1.
 SERVICE,RB,CP400,CM200,PR30,NJ7777.
 QUEUE,TS,IN,LP7000,UP7770,WF1.
 QUEUE,TS,EX,LP3700,UP7000,WF1,IP4000,IL3770.
 QUEUE,TS,OT,LP0001,UP7000,WF1.
 SERVICE,TS,CP40,CM10,PR30,NJ7777,TD341,TP4004.
 QUEUE,NS,IN,LP7770,UP7776,WF1.
 QUEUE,NS,EX,LP7770,UP7776,WF1,IP7772,IL7772.
 QUEUE,NS,OT,LP0001,UP7000,WF1.
 SERVICE,NS,CP400,CM200,PR74,NJ7777.
 QUEUE,DI,IN,LP0010,UP4000,WF1.
 QUEUE,DI,EX,LP1000,UP4000,WF1,IP2000,IL2000.
 QUEUE,DI,OT,LP0001,UP7000,WF1.
 SERVICE,DI,CP100,CM20,PR30,NJ7777,TD341.
 QUEUE,SS,IN,LP7770,UP7776,WF1.
 QUEUE,SS,EX,LP7770,UP7776,WF1,IP7772,IL7772.
 QUEUE,SS,OT,LP7400,UP7776,WF1.
 SERVICE,SS,CP100,CM20,PR70,NJ7777.
 QUEUE,MA,IN,LP0001,UP0010,WF1.
 QUEUE,MA,EX,LP0001,UP0010,WF1,IP0010,IL0004.
 QUEUE,MA,OT,LP7000,UP7776,WF1.
 SERVICE,MA,CP100,CM20,PR2,NJ7777.
 QUEUE,I0,IN,LP0010,UP4000,WF1.
 QUEUE,I0,EX,LP1000,UP4004,WF1,IP2000,IL2000.
 QUEUE,I0,OT,LP0001,UP7000,WF1.
 SERVICE,I0,CP400,CM200,PR30,NJ7777.
 QUEUE,I1,IN,LP0010,UP4000,WF1.
 QUEUE,I1,EX,LP1000,UP4004,WF1,IP2000,IL2000.
 QUEUE,I1,OT,LP0001,UP7000,WF1.
 SERVICE,I1,CP400,CM200,PR30,NJ7777.
 QUEUE,I2,IN,LP0010,UP4000,WF1.
 QUEUE,I2,EX,LP1000,UP4004,WF1,IP2000,IL2000.
 QUEUE,I2,OT,LP0001,UP7000,WF1.
 SERVICE,I2,CP400,CM200,PR30,NJ7777.
 QUEUE,I3,IN,LP0010,UP4000,WF1.
 QUEUE,I3,EX,LP1000,UP4004,WF1,IP2000,IL2000.
 QUEUE,I3,OT,LP0001,UP7000,WF1.
 SERVICE,I3,CP400,CM200,PR30,NJ7777.
 DELAY,JS1,CR30,AR1750,MN4,MX20,JQ2.
 NAMIAP=200.
 PCLASS,BC,I0,I1,I2,I3.

LIBD02

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*/
*/
*/
*CM      PP/1MS,1AJ,0DF
*CM      PP/1DL      DSD OVERLAY LOADER
*CM      PP/0AU,0AV,0BF,0DQ,0FA,0PT,0RF,0RP
*CM      PP/DSP
*CM      PP/QAC,3QS,3Q1,3SD
*CM      PP/0TD,1CK,TCS,LDR,LDD,LDQ,1MA,2MA,2MC,2MD
*CM      PP/3AA,3AB,3AD,3AE,3AF,3AG,3AH,3AI,3AJ,3AK
*CM      PP/4MA,4MB,4MC,4MD,4ME,4MF
*CM      PP/1RI,1RG,3RH,3RI,1RO,3RP
*CM      PP/LFM,3LB,1LC,3LD,3LE
*CM      PP/PPM,3PA,1PC,3PD,3PE,3PF,3PH,3PI,3PN,3PQ,3PR
*CM      PP/RPV,CPM,3CB,3CC,3CD,SPM,3SX
*CM      PP/1TA,TLX,1TO,2TO
*CM      PP/1MI,1MT,3ME,3MF,3MG,3MI,3MJ,3MO,3MQ
*CM      PP/1IO,1SJ,3SB,3SC,1DS
*CM      PP/1MB,2MN (ERROR LOGGING)
*CM      PP/3CR,3CS (CPD OVERLAYS)
*AD      S,ABS/CATLIST,CCLBRWE,CCLDS,CCLIFES,CHARGE,COPYB
*AD      S,ABS/EDIT,ENQUIRE,DAYFILE,FILES,IEDIT,LOADER
*AD      S,ABS/MFILES,MODIFY,PPFILES,RECOVER,XEDIT
*PROC    QTF,MLTF,RCFGEN
*PROC    HELP,PDU,ULIB,HELPMF,KEY,TDU
*PROC    MAG,SYSGEN,SHOW
*PROC    MS,RDP,PROLOG
*FL      ABS/ALGOL5-6450,BASIC-6330,CDCSBTF-6600
*FL      ABS/CDCS2-6615,COBOL5-6624,COPY8P-6200
*FL      ABS/DDLP-6540,DDL3-6540,DFRCV-6650,DML-6540
*FL      ABS/FILE-6031,FTN-6410,FTN5-6560,F45-6600
*FL      ABS/IMP-6500,MERGE-6600,NDA-400,PLI-6600
*FL      ABS/QU-6600,SORTMRG-6600, SORT5-6600
*FL      ABS/NVF-400,DLFP-300
*SC      ABS/ADLP,ALGOL5,BASIC,CDCSBTF
*SC      ABS/CDCS2,COBOL5,COPYL,COPY8P
*SC      ABS/DBMSTRO,DBRCVR,DBREC,DBQFPA,DBQRFI
*SC      ABS/DDLP,DDL3,DFRCV,DLFP,DML
*SC      ABS/IMP,ITEMIZE,FILE,FTN,FTN5,F45
*SC      ABS/LEG,NDA,NOLP,REPORTR,SCRIPT,LISTPPM
*SC      ABS/NDAS
*SC      ABS/SORTMRG,STIM,SYNPL,QU,UPDATE
*SC      OVL/BINEDIT
*SC      ABS/BINDER,EXPLAIN,OMREF,REVIEW

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INSTALLATION RESPONSE FORM

SOFTWARE RELEASE BULLETIN
NOS 2.3 LEVEL 617

Central Software Support maintains a list of the sites using NOS. In order that we may represent the customer base more effectively, we ask that you fill out the form below and return it to Central Software Support. Thank you.

SITE NAME AND CODE

SITE ADDRESS

CONTACT

DATE

This site has installed NOS 2.3 level 617 and is currently using it in a production environment.

Please return to:

CENTRAL SOFTWARE SUPPORT - ARH213
CONTROL DATA CORPORATION
4201 North Lexington Avenue
St. Paul, Minnesota 55112

NOS5539E